

$$2) R = 2 \text{ mm} \quad \underline{\underline{A = \pi R^2 = 12.5664 \text{ mm}^2 \text{ (DETERMINISTIČNO)}}}$$

$$E[R] = 1.999 \text{ mm}$$

$$A = g(R) = \pi R^2$$

$$V_R = 0.05$$

$$E[A] = E[g(R)] = E[\pi R^2] = \pi E[R^2]$$

$$\text{var}[R] = E[R^2] - E[R]^2 \Rightarrow E[R^2] = \text{var}[R] + E[R]^2$$

$$\text{var}[R] = V_R^2 \cdot E[R]^2$$

$$E[A] = \pi (V_R^2 E[R]^2 + E[R]^2) = \pi E[R]^2 (V_R^2 + 1)$$

$$\underline{\underline{E[A] = 12.5852}}$$

ZANIMIVO, DA JE $E[A] > A_{\text{deter.}}$, KLJUB TEMU, DA JE $E[R] < R_{\text{deter.}}$

PROIZVAJALEC MORJ PORABI NEKOLIKO VEČ MATERIALA.